

Partnering to Improve Human Exposure Methods

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Methods development research is an application-driven scientific area that addresses programmatic needs. The goals are to reduce measurement uncertainties, address data gaps, and improve existing analytical procedures for estimating human exposures. Partnerships have been developed across NERL, ORD, regions, program offices, and federal agencies to integrate research and maximize resources. Data produced by these methods are used to perform risk assessments, support regulatory decisions, and populate databases that inform the general public. Examples of NERL partnerships include: (1) Developing new methods for assessing exposures to chromated copper arsenate (CCA) with the National Risk Management Laboratory, the Office of Pesticide Programs (OPP), and the Consumer Product Safety Commission; (2) Collaboration on analytical methods for perfluorinated compounds with the National Health and Environmental Effects Research Laboratory (NHEERL) to support exposure data needs for the Office of Prevention, Pesticides, and Toxics; (3) Collaborations with Regions 3, 4 & 5 to provide tools to states and local governments for alkylphenols analyses and alternative methods to the current toxic organics methods; (4) State collaborations: Detroit Exposure and Aerosol Research Study integrates work among the U.S. Environmental Protection Agency (U.S. EPA), Michigan Department of Environmental Quality, and University of Michigan. Data will support development of a criteria document and human health protective standards for particulate matter (PM), components, and air toxics; (5) Nationwide collaborations: American Healthy Homes Survey (AHHS) is a collaboration among the NERL, Office of Pollution Prevention and Toxics (OPPT), and Office of Healthy Homes and Lead Hazard Control/U.S. Department of Housing and Urban Development (HUD) to perform a national survey of housing-related hazards. NERL provides exposure methods for analytes such as pesticides, perfluorinated compounds, and arsenic associated with the presence of CCA-treated wood. The data will be included in the first national residential multi-parameter database.

Collaborators: Bradham, Strynar, Stout, McClenny, McDow (NERL); Mason (National Risk Management Research Laboratory); Lau (NHEERL); Gundersen (R-3); France (R-4); Zintek (R-5); Libelo (Office of Prevention Pesticides and Toxic Substances); Friedman (HUD)

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